

S
312.23
H2i
1963

PLEASE NOTE: This Hospital Report contains:

1. Annual Mortalities for 1963
2. Revisions contained in the 1964
Edition of Standardized and Comparative
Mortality Rates of the Perinatal and

STATE DOCUMENTS

EIGHTH ANNUAL REPORT

1963

INFANT

and

NEONATAL MORTALITY

and

STILLBIRTH RATES

by

MONTANA HOSPITALS

PREPARED BY:

MONTANA STATE BOARD OF HEALTH

DIVISION OF CHILD HEALTH SERVICES

DIVISION OF RECORDS AND STATISTICS

- AND -

MONTANA MEDICAL ASSOCIATION

MATERNAL & CHILD WELFARE COMMITTEE

HELENA, MONTANA

MONTANA STATE LIBRARY
930 East Lyndale Avenue
Helena, Montana 59601

Montana State Library



3 0864 1004 3834 3

FOREWORD

TO: Hospital Administrators
Medical Staffs, and Nurses

This is the current report of the vital statistics concerning fetal, neonatal, and infant deaths occurring in Montana hospitals. To this have been added the figures on premature births and the rate per total live births. Premature births, for the purpose of tabulation, are classified as infants born weighing 5 and 1/2 pounds or less.

These statistics are compiled as reported on the quarterly hospital cards from the hospitals. For purposes of statistical analysis the hospitals are classified into four groups. This grouping is done according to the individual hospital birth rate as reported in the quarterly information summaries. The information in this report should be used by the medical and nursing staff of the hospital as a comparison of death rates in hospitals of approximately the same size. In some instances there is a difference between the figures reported on the quarterly hospital cards and the figures obtained by tabulating birth and death certificates. Where there is a marked discrepancy in the number of live births, an asterisk (*) precedes the "Total Live Births" column and the figure from the birth certificates will be written in red alongside the printed figures. In 1963 the birth rate in hospitals in Montana continued to decline with a rate of 22.2 per 1,000 estimated population.

| <u>DEATHS</u> | <u>1961</u> | | <u>1962</u> | | <u>1963</u> | |
|---|-------------------------------|-----|-------------------------------|-----|-------------------------------|-----|
| | Rate Per 1,000 Live Births | No. | Rate Per 1,000 Live Births | No. | Rate Per 1,000 Live Births | No. |
| Fetal (stillbirth) | 11.0 | 184 | 13.1 | 216 | 12.4 | 194 |
| Neonatal (birth - 28 days) | 17.6 | 296 | 15.7 | 260 | 15.4 | 240 |
| Perinatal (neonatal & fetal) | 28.6 | 480 | 28.8 | 476 | 27.8 | 434 |
| Post perinatal (28 days - 12 months) | 1.4 | 24 | 2.8 | 46 | 2.1 | 33 |

The value of the study and report is related directly to the interest of the hospital medical and nursing staffs. It is hoped that the hospitals will continue to use a cooperative, constructive approach to the problems occurring not only in the community but also in the entire State.

Division of Child Health Services
of the Montana State Board of Health

and

Maternal and Child Welfare Committee
of the Montana Medical Association

MATERNAL MORTALITY IN 1963

The Maternal and Child Welfare Committee of the Montana Medical Association in collaboration with the State Board of Health conducts a study of maternal mortality in Montana.

In the year 1963 there were four maternal deaths, three of which were a direct result of pregnancy and one, a coincidence.

Mortality as a Direct Result of Pregnancy:

Mother's Age

37

Cause of Death

Cardiac decompensation, acute.
Influenza. Acute pneumonia.
Pregnancy - 36 weeks.

36

Streptococcal infection.
Puerperal sepsis.
Prolonged labor.

31

Shock with peripheral vascular
collapse. Secondary uterine
hemorrhage.

Coincidental Maternal Death:

Mother's Age

34

Cause of Death

Car wreck. Head injuries.
Crushed chest. Internal injuries.

For several years Montana has had a low rate of maternal mortality, but in 1962 and 1963 this rate increased considerably. It appears that more attention must be paid to prevention of such occurrences, and there should be improvement in treatment.

CHANGES CONTAINED IN THE 1964 REVISION OF THE
STANDARDS AND RECOMMENDATIONS FOR HOSPITAL CARE OF NEWBORN INFANTS*

Introduction

This book has been used as a nursery standard since 1954. The second revision was made this year. As it may be some time before the book is distributed to all hospitals, it might be pertinent to call attention to the important changes that have been made, reflecting changes in nursery procedures over the past ten years.

1. Terminology--The book would like to distinguish between low-birth-weight babies and premature babies, i.e., a baby under 5 lb. 8 oz. would be a low-birth-weight baby. If gestation is less than 40 weeks, it would be a premature baby regardless of weight. It is well known that a full-term baby may weigh less than 5 lb. 8 oz. and that a premature baby, as in the case of a diabetic mother, may weigh over 5 lb. 8 oz.

The neonatal period is divided into the early neonatal (1 - 7 days) and the late neonatal (8 - 28 days).

2. The Committee recommends that axillary temperatures be taken as rectal temperatures lead to more stools, the thermometers cannot be sterilized properly, and zephiran when used may lead to rectal fissures. The type of thermometer registering as low as 84 degrees F. is recommended. Temperatures should be taken once every hour for the first four hours, then every four hours.
3. An important addition to nursery procedures is the compilation of a daily nursery log or diary. This should record every occurrence in the nursery, and entries should be made at the time of occurrence. This has been found to be very helpful in tracing back on the causes of infections, etc.
4. Where size of hospital and number of newborns permit, there should be a recovery area, as is used in surgical practice. Furthermore, it is recommended that a Cadre system be used. All babies born in any one 24-hour period would be kept together and would travel through their hospitalization as a unit.
5. Linen chutes must be kept away from the nursery to avoid contamination.
6. Lighting--100 foot candles fluorescent lighting is recommended for the detection of jaundice and cyanosis. This amount of light is too strong for routine use, but a portable lamp is available.
7. Air conditioning should provide 12 changes per hour and should be well filtered.

8. Formula should be tasted daily by someone in the nursery. This is a very valuable check for contamination, either chemical or bacteria.
9. There should be periodic bacteriological checks on the prepared (purchased) formulas, as well as on all formulas.
10. The baby's foot and palm prints and the mother's finger prints should be used for identification.
11. It is recommended that the Apgar Score be done at one minute of life. It is especially stressed that the examination of the newborn should be thorough and that the genitalia and the external urethral opening be examined carefully. Record the time of examination.
12. Nursing personnel--There should be one person for each eight normal babies and one for each five premature babies and a registered nurse for each shift.
13. A rocking chair with side arms to support the baby is recommended for the nursery.
14. Laboratory service should be available around the clock.
15. Vitamin K--If given, the natural K₁, 1/2 to 1 mg. IM or preferably 1 to 2 mg. by mouth for term babies.
16. Skin care--Hexachlorophene soaps are recommended.
17. Umbilical cord--Use 70 percent alcohol and keep the cord dry.
18. Babies should be weighed daily and the weight should be recorded. Breast-fed babies should not receive a supplemental formula, although glucose solution is acceptable.

The above 18 recommendations comprise the essential changes in the 1964 revision. Most of these recommendations already are being applied in the newborn nurseries in Montana.

The check list beginning on Page 73 is a valuable method of self evaluation for the individual nursery.

Division of Child Health Services
Montana State Board of Health
Helena, Montana

Chart #1
GENERAL HOSPITALS
(100 beds or more)

Montana - 1963

Infant and Fetal Mortalities

| Total Live Births | Prematures | | Number of Deaths | | | | | Rate Per 1,000 Live Births | | | | |
|-------------------------|------------|------|------------------|------------------|---------------|------------------|----------------|----------------------------|------------------|---------------|------------------|----------------|
| | No. | o/o | Infant | 1 - 12 months | Neo- natal | Still- births | Peri- natal | Infant | 1 - 12 months | Neo- natal | Still- births | Peri- natal |
| 6,500 | 314 | 4.83 | 129 | 16 | 113 | 82 | 195 | 19.8 | 2.4 | 17.4 | 12.6 | 30.0 |
| 1,148 | 69 | 6.01 | 24 | 2 | 22 | 14 | 36 | 20.9 | 1.7 | 19.2 | 12.2 | 31.4 |
| 1,052 | 47 | 4.46 | 22 | 1 | 21 | 11 | 32 | 20.9 | 1.0 | 19.9 | 10.5 | 30.4 |
| * 956 | 79 | 8.26 | 24 | 2 | 22 | 16 | 38 | 25.0 | 2.0 | 23.0 | 16.7 | 39.7 |
| 896 | 36 | 4.01 | 14 | 3 | 11 | 8 | 19 | 15.6 | 3.3 | 12.3 | 8.9 | 21.2 |
| 878 | 17 | 1.93 | 24 | 8 | 16 | 17 | 33 | 27.3 | 9.1 | 18.2 | 19.4 | 37.6 |
| * 746 | 23 | 3.08 | 12 | 0 | 12 | 8 | 20 | 16.1 | 0.0 | 16.1 | 10.7 | 26.8 |
| * 424 | 18 | 4.25 | 6 | 0 | 6 | 4 | 10 | 14.2 | 0.0 | 14.2 | 9.4 | 23.6 |
| * 400 | 25 | 6.25 | 3 | 0 | 3 | 4 | 7 | 7.5 | 0.0 | 7.5 | 10.0 | 17.5 |

Chart #2
INTERMEDIATE GENERAL HOSPITALS
(40 - 99 beds)

Montana - 1963

Infant and Fetal Mortalities

| Total Live Births | Prematures | | Number of Deaths | | | | | Rate Per 1,000 Live Births | | | | |
|-------------------------|------------|-------|------------------|------------------|---------------|------------------|----------------|----------------------------|------------------|---------------|------------------|----------------|
| | No. | o/o | Infant | 1 - 12 months | Neo- natal | Still- births | Peri- natal | Infant | 1 - 12 months | Neo- natal | Still- births | Peri- natal |
| 5,512 | 324 | 5.88 | 85 | 4 | 81 | 75 | 156 | 15.4 | 0.7 | 14.7 | 13.6 | 28.3 |
| * 533 | 29 | 5.44 | 7 | 2 | 5 | 2 | 7 | 13.1 | 3.7 | 9.4 | 3.7 | 13.1 |
| * 505 | 22 | 4.35 | 7 | 0 | 7 | 7 | 14 | 13.8 | 0.0 | 13.8 | 13.8 | 27.6 |
| 488 | 13 | 2.66 | 4 | 0 | 4 | 6 | 10 | 8.2 | 0.0 | 8.2 | 12.3 | 20.5 |
| 412 | 39 | 9.46 | 9 | 2 | 7 | 4 | 11 | 21.8 | 4.9 | 16.9 | 9.7 | 26.6 |
| 399 | 36 | 9.02 | 6 | 0 | 6 | 8 | 14 | 15.0 | 0.0 | 15.0 | 20.1 | 35.1 |
| 378 | 41 | 10.85 | 8 | 0 | 8 | 6 | 14 | 21.1 | 0.0 | 21.1 | 15.9 | 37.0 |
| 335 | 14 | 4.18 | 4 | 0 | 4 | 2 | 6 | 11.9 | 0.0 | 11.9 | 6.0 | 17.9 |
| 311 | 16 | 5.14 | 7 | 0 | 7 | 3 | 10 | 22.5 | 0.0 | 22.5 | 9.6 | 32.1 |

Chart #2
INTERMEDIATE GENERAL HOSPITALS
(40 - 99 beds)

Montana - 1963 (continued)

Infant and Fetal Mortalities

| Total Live Births | Prematures | | Number of Deaths | | | | | Rate Per 1,000 Live Births | | | | |
|-------------------------|------------|------|------------------|------------------|---------------|------------------|----------------|----------------------------|------------------|---------------|------------------|----------------|
| | No. | o/o | Infant | 1 - 12 months | Neo- natal | Still- births | Peri- natal | Infant | 1 - 12 months | Neo- natal | Still- births | Peri- natal |
| 276 | 9 | 3.26 | 1 | 0 | 1 | 11 | 12 | 3.6 | 0.0 | 3.6 | 39.9 | 43.5 |
| * 270 | 12 | 4.44 | 4 | 0 | 4 | 3 | 7 | 14.8 | 0.0 | 14.8 | 11.1 | 25.9 |
| 267 | 22 | 8.24 | 4 | 0 | 4 | 6 | 10 | 14.9 | 0.0 | 14.9 | 22.5 | 37.4 |
| * 262 | 21 | 8.02 | 5 | 0 | 5 | 4 | 9 | 19.1 | 0.0 | 19.1 | 15.3 | 34.4 |
| 244 | 14 | 5.74 | 3 | 0 | 3 | 6 | 9 | 12.3 | 0.0 | 12.3 | 24.6 | 36.9 |
| 224 | 15 | 6.69 | 1 | 0 | 1 | 3 | 4 | 4.5 | 0.0 | 4.5 | 13.4 | 17.9 |
| 217 | 4 | 1.84 | 2 | 0 | 2 | 2 | 4 | 9.2 | 0.0 | 9.2 | 9.2 | 18.4 |
| 164 | 8 | 4.88 | 8 | 0 | 8 | 1 | 9 | 48.8 | 0.0 | 48.8 | 6.1 | 54.9 |
| * 145 | 6 | 4.13 | 2 | 0 | 2 | 1 | 3 | 13.8 | 0.0 | 13.8 | 6.9 | 20.7 |
| * 82 | 3 | 3.66 | 3 | 0 | 3 | 0 | 3 | 36.6 | 0.0 | 36.6 | 0.0 | 36.6 |

Chart #3
SMALL GENERAL HOSPITALS
(10 - 39 beds)

Montana - 1963

Infant and Fetal Mortalities

| Total Live Births | Prematures | | Number of Deaths | | | | | Rate Per 1,000 Live Births | | | | |
|-------------------------|------------|------|------------------|------------------|---------------|------------------|----------------|----------------------------|------------------|---------------|------------------|----------------|
| | No. | o/o | Infant | 1 - 12 months | Neo- natal | Still- births | Peri- natal | Infant | 1 - 12 months | Neo- natal | Still- births | Peri- natal |
| 3,539 | 135 | 3.81 | 58 | 13 | 45 | 37 | 82 | 16.4 | 3.7 | 12.7 | 10.5 | 23.2 |
| 249 | 6 | 2.41 | 3 | 0 | 3 | 3 | 6 | 12.0 | 0.0 | 12.0 | 12.0 | 24.0 |
| 243 | 8 | 3.29 | 1 | 0 | 1 | 3 | 4 | 4.1 | 0.0 | 4.1 | 12.3 | 16.4 |
| * 218 | 12 | 5.50 | 9 | 3 | 6 | 2 | 8 | 41.3 | 13.8 | 27.5 | 9.2 | 36.7 |
| * 194 | 18 | 9.28 | 6 | 1 | 5 | 4 | 9 | 30.9 | 5.1 | 25.8 | 20.6 | 46.4 |
| * 174 | 7 | 4.02 | 9 | 5 | 4 | 3 | 7 | 51.7 | 28.7 | 23.0 | 17.2 | 40.2 |
| * 172 | 5 | 2.91 | 4 | 1 | 3 | 3 | 6 | 23.2 | 5.8 | 17.4 | 17.4 | 34.8 |
| 147 | 0 | 0.00 | 2 | 0 | 2 | 1 | 3 | 13.6 | 0.0 | 13.6 | 6.8 | 20.4 |
| * 134 | 5 | 3.73 | 2 | 0 | 2 | 1 | 3 | 14.9 | 0.0 | 14.9 | 7.5 | 22.4 |
| 133 | 8 | 6.02 | 2 | 1 | 1 | 0 | 1 | 15.0 | 7.5 | 7.5 | 0.0 | 7.5 |

Chart #3
SMALL GENERAL HOSPITALS
(10 - 39 beds)

Montana - 1963 (continued)

Infant and Fetal Mortalities

| Total Live Births | Prematures | | Number of Deaths | | | | | Rate Per 1,000 Live Births | | | | |
|-------------------------|------------|-------|------------------|------------------|---------------|------------------|----------------|----------------------------|------------------|---------------|------------------|----------------|
| | No. | o/o | Infant | 1 - 12 months | Neo- natal | Still- births | Peri- natal | Infant | 1 - 12 months | Neo- natal | Still- births | Peri- natal |
| 132 | 14 | 10.60 | 3 | 0 | 3 | 1 | 4 | 22.7 | 0.0 | 22.7 | 7.6 | 30.3 |
| 129 | 8 | 6.20 | 2 | 0 | 2 | 0 | 2 | 15.5 | 0.0 | 15.5 | 0.0 | 15.5 |
| 117 | 3 | 2.56 | 0 | 0 | 0 | 2 | 2 | 0.0 | 0.0 | 0.0 | 17.1 | 17.1 |
| 117 | 12 | 10.26 | 3 | 1 | 2 | 0 | 2 | 25.6 | 8.5 | 17.1 | 0.0 | 17.1 |
| 100 | 6 | 6.00 | 3 | 0 | 3 | 2 | 5 | 33.0 | 0.0 | 33.0 | 20.0 | 53.0 |
| 98 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90 | 4 | 4.44 | 2 | 0 | 2 | 1 | 3 | 22.2 | 0.0 | 22.2 | 11.1 | 33.3 |
| 89 | 1 | 1.12 | 0 | 0 | 0 | 3 | 3 | 0.0 | 0.0 | 0.0 | 33.7 | 33.7 |

Chart #3
SMALL GENERAL HOSPITALS
(10 - 39 beds)

Montana - 1963 (continued)

Infant and Fetal Mortalities

| Total Live Births | | Prematures | | Number of Deaths | | | | | Rate Per 1,000 Live Births | | | | |
|-------------------|----|------------|------|------------------|---------------|-----------|--------------|------------|----------------------------|---------------|-----------|--------------|------------|
| | | No. | o/o | Infant | 1 - 12 months | Neo-natal | Still-births | Peri-natal | Infant | 1 - 12 months | Neo-natal | Still-births | Peri-natal |
| * | 86 | 2 | 2.32 | 0 | 0 | 0 | 1 | 1 | 0.0 | 0.0 | 0.0 | 11.6 | 11.6 |
| * | 79 | 0 | 0.00 | 0 | 0 | 0 | 2 | 2 | 0.0 | 0.0 | 0.0 | 25.3 | 25.3 |
| | 75 | 2 | 2.67 | 0 | 0 | 0 | 1 | 1 | 0.0 | 0.0 | 0.0 | 13.3 | 13.3 |
| | 74 | 2 | 2.70 | 0 | 0 | 0 | 1 | 1 | 0.0 | 0.0 | 0.0 | 13.5 | 13.5 |
| * | 71 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 69 | 3 | 4.35 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| * | 59 | 0 | 0.00 | 1 | 0 | 1 | 0 | 1 | 16.9 | 0.0 | 16.9 | 0.0 | 16.9 |
| | 58 | 0 | 0.00 | 1 | 0 | 1 | 0 | 1 | 17.2 | 0.0 | 17.2 | 0.0 | 17.2 |
| | 53 | 1 | 1.89 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Chart #3
SMALL GENERAL HOSPITALS
(10 - 39 beds)

Montana - 1963 (continued)

Infant and Fetal Mortalities

| Total Live Births | Prematures | | Number of Deaths | | | | | Rate Per 1,000 Live Births | | | | |
|-------------------------|------------|-------|------------------|------------------|---------------|------------------|----------------|----------------------------|------------------|---------------|------------------|----------------|
| | No. | o/o | Infant | 1 - 12 months | Neo- natal | Still- births | Peri- natal | Infant | 1 - 12 months | Neo- natal | Still- births | Peri- natal |
| 51 | 1 | 1.96 | 1 | 0 | 1 | 1 | 2 | 19.6 | 0.0 | 19.6 | 19.6 | 39.2 |
| 45 | 3 | 6.67 | 0 | 0 | 0 | 1 | 1 | 0.0 | 0.0 | 0.0 | 22.2 | 22.2 |
| 36 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 35 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 33 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| * 32 | 4 | 12.50 | 2 | 0 | 2 | 1 | 3 | 62.5 | 0.0 | 62.5 | 31.3 | 93.8 |
| 31 | 0 | 0.00 | 1 | 0 | 1 | 0 | 1 | 32.3 | 0.0 | 32.3 | 0.0 | 32.3 |
| 20 | 0 | 0.00 | 1 | 1 | 0 | 0 | 0 | 50.0 | 50.0 | 0.0 | 0.0 | 0.0 |
| 6 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Chart #4
COMMUNITY FACILITY
(Under 10 beds)

Montana - 1963

Infant and Fetal Mortalities

| Total Live Births | Prematures | | Number of Deaths | | | | | Rate Per 1,000 Live Births | | | | |
|-------------------------|------------|------|------------------|------------------|---------------|------------------|----------------|----------------------------|------------------|---------------|------------------|----------------|
| | No. | o/o | Infant | 1 - 12 months | Neo- natal | Still- births | Peri- natal | Infant | 1 - 12 months | Neo- natal | Still- births | Peri- natal |
| 79 | 3 | 3.79 | 1 | 0 | 1 | 0 | 1 | 12.7 | 0.0 | 12.7 | 0.0 | 12.7 |
| 29 | 2 | 6.89 | 1 | 0 | 1 | 0 | 1 | 34.5 | 0.0 | 34.5 | 0.0 | 34.5 |
| 27 | 1 | 3.70 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 23 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

